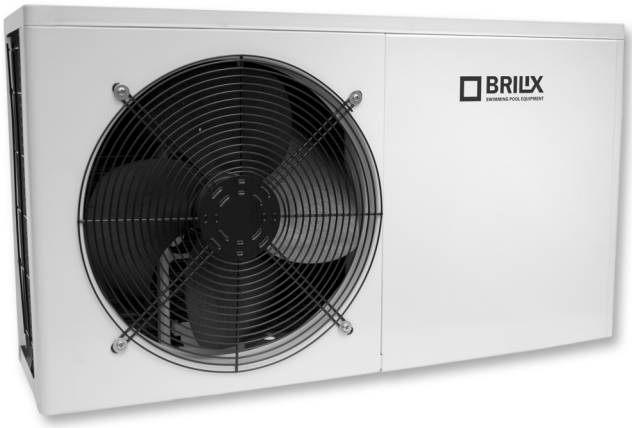
EN

SWIMMING POOL HEAT PUMP

(THP 55, THP 100, THP 120, THP 170)



INSTALLATION AND USER GUIDE

Read the instructions

BRILIX
SWIMMING POOL EQUIPMENT

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Thank you for choosing our product and for your trust in our company. To ensure that you can fully enjoy the product, please read these instructions carefully and strictly follow the user guide so as not to damage the device and to avoid unnecessary injuries.

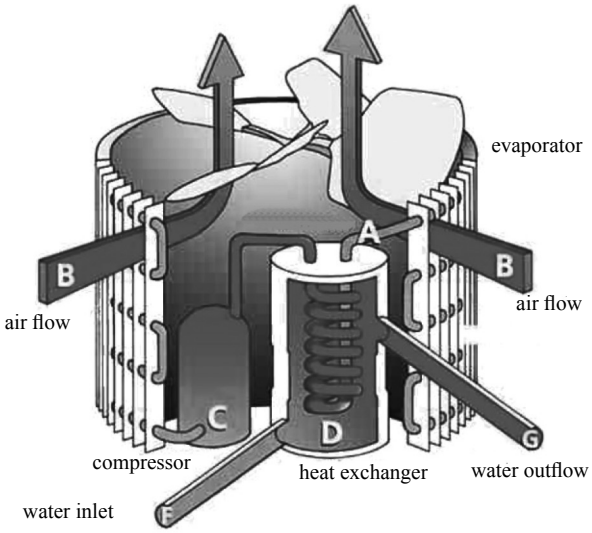
I. Performance and properties

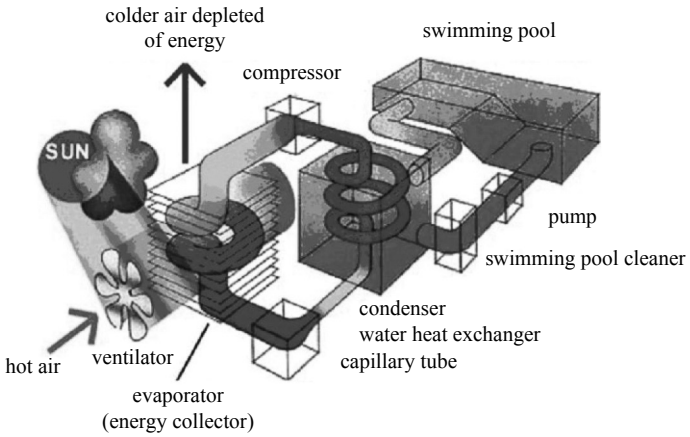
High performance
Our heat pumps are very efficient in transferring heat from air to water in the pool. They can provide savings of up to 80% in energy compared to an electric heater.

Long life
The heat exchanger is made from a PVC/titanium composite pipe resistant to the long-term effects of pool water.

Simple operation and maintenance
The device is easy to control: switch it on and set the required temperature of the water in the pool. The system incorporates a microcomputer control unit which allows all the operational parameters to be specified. The state of operation can be displayed on the control unit through an LCD display.

II. System design





- Heat pumps make use of free heat from the sun by collecting and absorbing energy from the outside air.
- This device contains a ventilator which draws the outside air in and makes it flow over the surface of the EVAPORATOR (energy collector). The liquid coolant in the EVAPORATOR pipeline absorbs the heat from the outside air and the coolant vaporises.
- The warm gas in the pipeline passes through the COMPRESSOR which gathers the heat and increases the temperature to generate very hot gas which then passes to the CONDENSER (water heat exchanger). This is where the heat exchange occurs - the hot gas transfers heat to the colder water from the pool which is circulating through the coil.
- The pool water is heated and the hot gas is cooled when passing through the CONDENSER pipeline – it regains its liquid form and, after the passage through the CAPILLARY TUBE, the whole process recommences.
- The current technology used in the heat pump allows efficient use even at an outside air temperature of 7 to 10 ºC. For tropical and subtropical climates, this means that 26 to 32 ºC may be maintained in the pool under almost any conditions all year round. In northern countries, the heat pump considerably extends the swimming season.

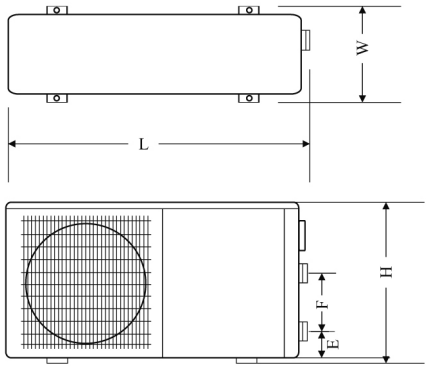
III. Performance properties

Performance properties of a monoblock-type heat pump for swimming pools

Code			THP 55	THP 100	THP 120	THP 170
Nominal heat output		W	5500	9900	11800	17300
		BTU	19000	34000	41300	59500
Heat input		W	1240	1940	2650	3670
Operating current for heating		A	5,5	9,6	13,3	18
Current supply		V/phase/Hz	220-240/1/50			
Number of compressors			1	1	1	1
Compressor						Scroll
Number of ventilators			1	1	1	1
Input of ventilators		W	25	50	50	50
Ventilator speed		RPM	950	950	950	950
Noise		dB(A)	53	55	57	59
Mains pipe		mm	50	50	50	50
Water flow		m^3/h	2-4	4-6	6-8	8-10
Decrease in water pressure		kpa	20	20	20	20
Coolant (R407C)		kg	0,8	1,3	1,3	2,1
Net dimensions	L	mm	935	1090	1090	1165
	W		360	370	370	470
	H		550	615	615	685
Packaged dimensions	L	mm	1060	1140	1140	1195
	W		380	400	400	485
	H		600	660	660	730
Weight	net	kg	40	62	65	99
	gross		48	71	77	104

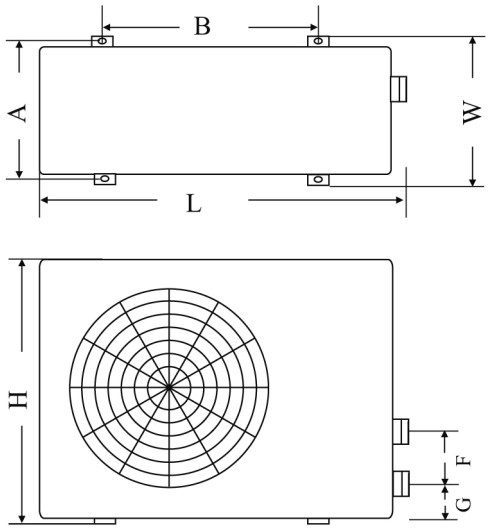
IV. Dimensions

Dimensions of heat pumps (monoblock-type) for swimming pools



Dimension \ Model	THP 55	THP 100	THP 120
L	1000	1090	1090
W	360	370	370
H	550	612	612
E	81	84	84
F	200	270	270

Unit: mm



Dimension \ Model	THP 170
L	1165
W	470
H	685
A	440
B	760
F	325
G	81,5

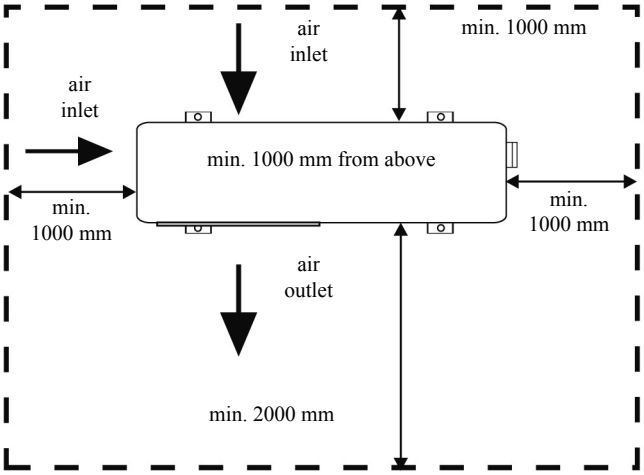
Unit: mm

V. Preparations for installation

5.1 Selection of the installation position

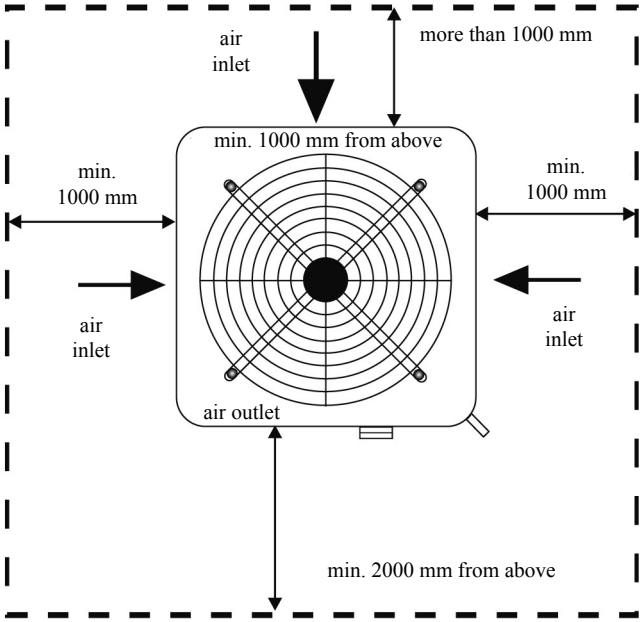
- The heat pump has to be installed in a spacious and well ventilated place.
- Its position has to guarantee adequate free space for the exhaust (the location of the air inlet is shown in the diagram on the next page).
- The heat pump has to be situated close to a drain or vent so as to make water discharge easier.
- The installation base or brace has to be firm enough to ensure smooth operation of the device.
- Make sure the device, when installed, is situated vertically, without any inclination.
- Do not install the device in places where there is contamination, corrosive gas or where dirt or fallen leaves accumulate.
- The heat pump must not be installed in the vicinity of an inflammable or explosive environment or near things that are a common cause of fire.
- Maintain the distances from obstacles as indicated with arrows in the picture below.

Model with horizontal discharge



Requirements for free space around the horizontal heat pump

Model with vertical discharge

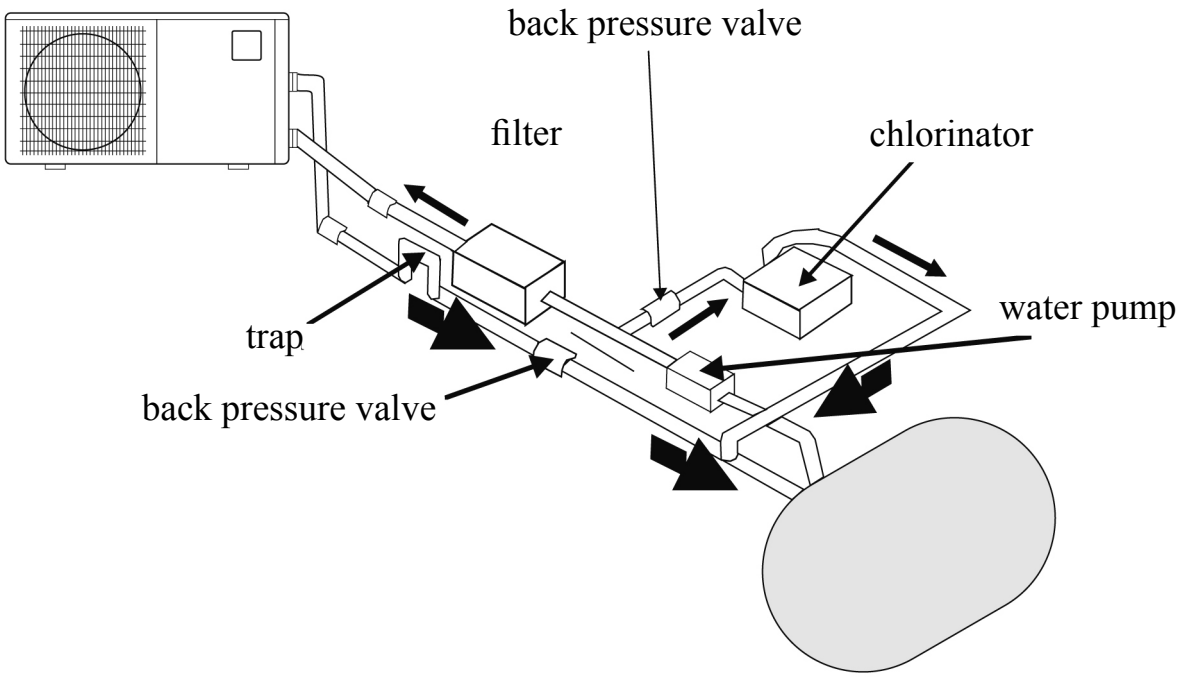


Requirements for free space around the vertical heat pump

Warning:

- Do not put your hand or any object into the air outlet or ventilator, as this could damage the device and cause an injury.
- In the event of any abnormalities, switch off the device immediately and contact an expert technician.
- If needed, you should place barriers next to the device to keep children away from the running heat pump.

5.2 Installation diagram



VI. Operating the control unit

Preliminary steps before start-up

A) Inspect the heat pump

- Visually check the device or the pipeline within the device to ensure that the device was not damaged during transport.
- Check that the ventilator does not touch any other part of the device.

B) Check the electric connections

- Check that the electricity supply complies with the technical data in this guide or on the device identification plate.
- Check that the wiring is correctly and safely connected in accordance with the wiring diagram. An adequate earth connection is necessary to protect from electric shocks.

6. 1 Picture of the control unit

A. ⏻ On / off button.

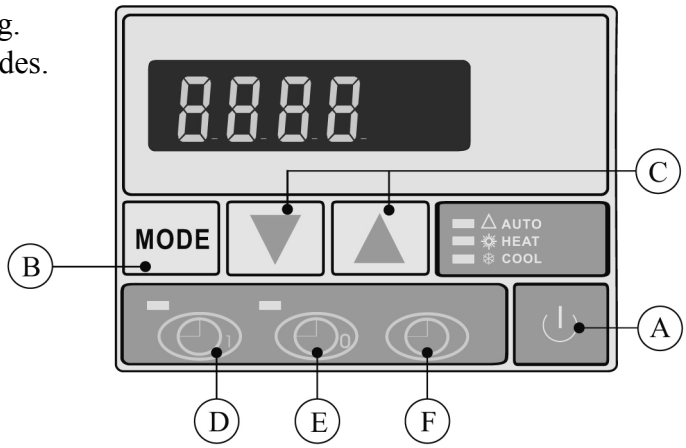
B. MODE Mode selector – automatic, heating or cooling. There are indicator lights for the selected modes.

C. ▽ or △ Buttons for changing the numbers displayed.

D. Button for setting the switch-on time.

E. Button for setting the switch-off time.

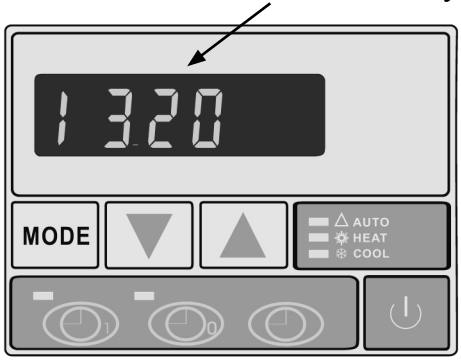
F. Button for adjusting the time.



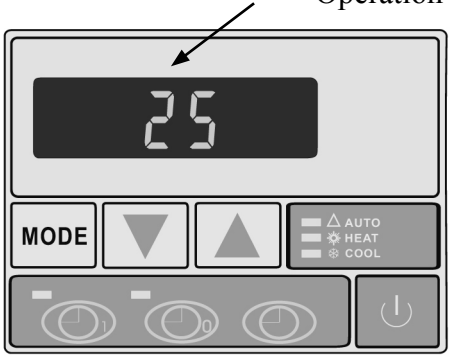
6. 2 How to activate the heat pump

When connected to a power supply, the control unit will show the time. This means the device is in standby mode. Pushing the button ⏻ will activate the heat pump. The control unit display will now show the temperature of the input water.

Standby



Operation



6. 3 How to change the mode

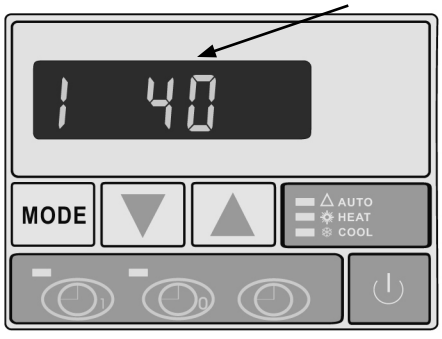
Press the **MODE** button to change the mode to automatic, heating or cooling. The appropriate indicator light will be illuminated on the right side of the control unit.

6.4 How to check the settings and the current measured values

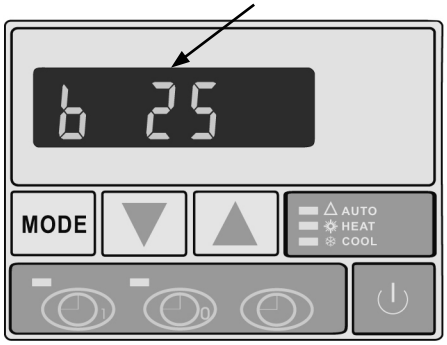
In the standby mode or operation mode, use the buttons ▽ or △ to find the parameter 0-A and the current measured values

Parameter	Meaning	Range	Factory setting
0	Setting the return water temperature (cooling mode)	8-28ºC	12ºC
1	Setting the return water temperature (heating mode)	15-40ºC	40ºC
2	Defrosting cycle	30-90 min	45 min
3	Setting the pipeline temperature for the start of defrosting	0- –30ºC	-7ºC
4	Setting the pipeline temperature for the end of defrosting	2-30ºC	13ºC
5	Maximum defrosting time	1-12 min	8 min
6	Number of systems	1-2	1
7	Restart after electricity supply failure	0-1	1 (yes)
8	Type: only cooling 0/ heating and cooling 1/ heating and cooling + additional heating 2/ heating only 3	0-3	1
9	Different water pump operating mode 0 water pump works uninterruptedly 1 water pump works together with the heat pump	0-1	0
A	Setting the return water temperature (automatic mode)	8–60ºC	28ºC
B	Actual temperature of input water	-9 +90ºC	
C	Actual temperature of output water	-9 +90ºC	
D	Pipeline water temperature in system 1	-9 +90ºC	
E	Pipeline water temperature in system 1 (only for a double system)	-9 +90ºC	
F	Surrounding temperature	-9 +90ºC	

Parameter 1



Current measured value



6. 5 How to change parameter settings

1. In the standby mode, use buttons ▽ or △ to find the parameter 0-A and the current measured values for B-F.
2. Simultaneously, for five seconds, press buttons ▽and△ to activate parameter setting.
3. Change the parameter value until you hear a beep and until the parameter is indicated on the display as a flashing value.
4. If no button is pressed on the control unit within five seconds, the electronics will save the data automatically and will return to the standby mode.

6. 6 How to set the clock

1. In the standby mode, press button . The hour digits will start flashing to show that they can be changed using buttons ▽ or △ .
2. Again, press button . The minute digits will start flashing to show that they can be changed using buttons ▽ or △ .
3. To confirm the time setting, press button .

6. 7 How to set the switch-on and switch-off time using the timer

a) Press button to activate the timer switch-on time setting mode. The hour and minute digits will start flashing.
b) Again, press button to activate clock setting. The hour digits will start flashing to show that they can be changed using buttons ▽and△ .
c) Press button to confirm the setting. The display will return to standby mode. The green indicator light for the switch-on time of the timer will be illuminated.
d) To set the switch-off time of the timer, take the same steps. Instead of button use button . The green indicator light for the switch-off time of the timer will be illuminated.

Note: *You can set both the switch-on and switch-off times of the timer, or only one.*

6. 8 How to cancel / reset the timer function

For activation, press button or . The appropriate indicator light will start flashing. To cancel / reset the timer function, press button .

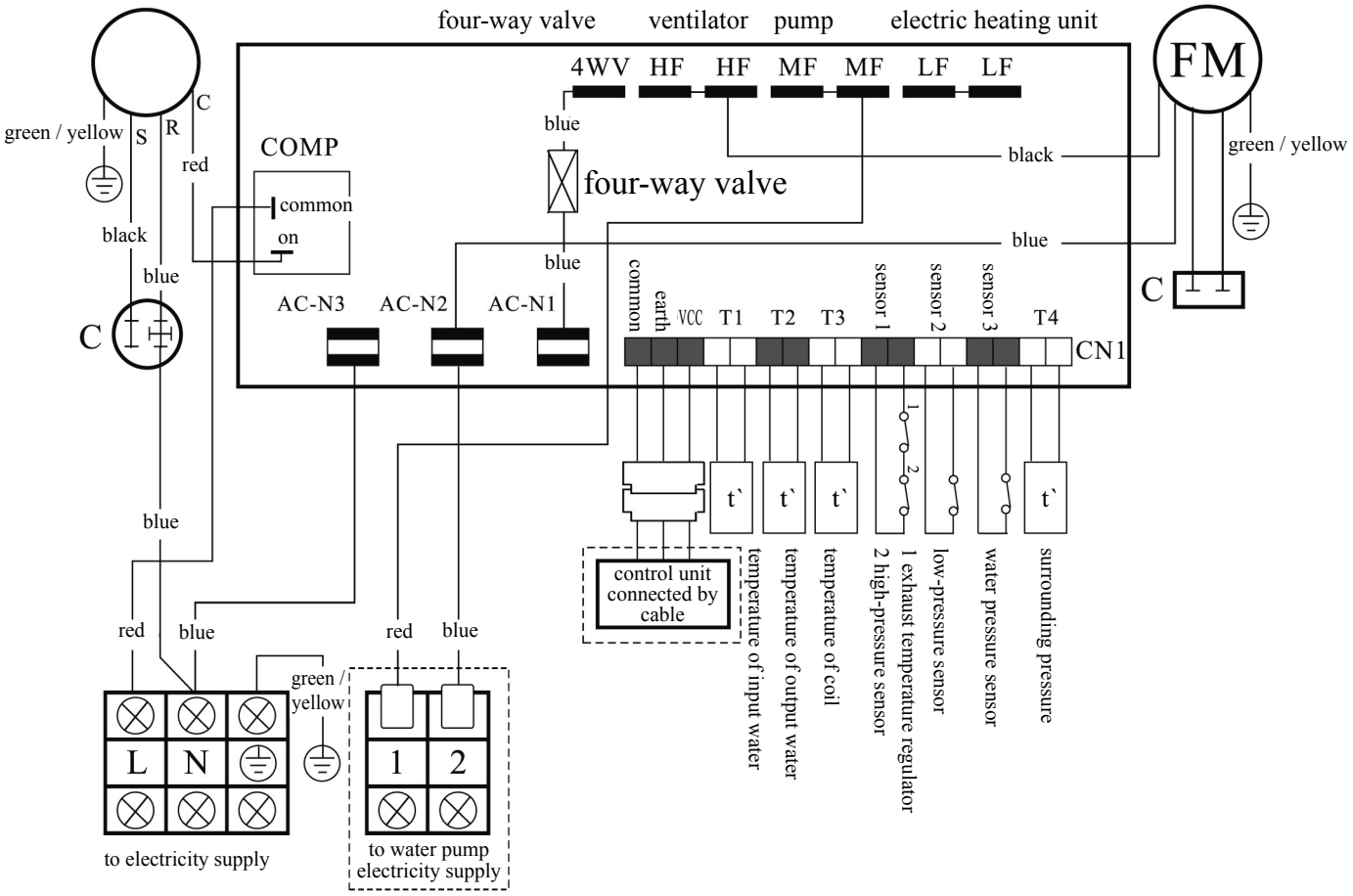
6. 9 Lock / Unlock the keyboard

When you have finished setting the parameters, pressing buttons ▽and△ simultaneously for three seconds (until a beep is heard) will lock the keyboard. To unlock it, press these two buttons simultaneously for other three seconds.

VII. Connection diagram

Models: THP 55, THP 100, THP 120, THP 170

CONNECTION DIAGRAM FOR A SWIMMING POOL HEAT PUMP



Power conductor cross-sections

Code	THP 55	THP 100	THP 120	THP 170
Cross-section	1,5 mm^2			

VIII. Maintenance

- Check that the device water inlet is open. It is necessary to avoid low water and air flows into the device because they could worsen its performance and reliability. You have to clean the swimming pool filter regularly to avoid damage to the device as a result of a dirty or blocked filter.
- The space around the device has to be dry, clean and well ventilated. Clean the side heat exchanger regularly in order to maintain good heat exchange performance and save energy.
- The cooling system may only be serviced by certified maintenance engineers.

IX. Troubleshooting

CONTROL UNIT	FAULT	CAUSE	SOLUTION
PP 1	Input water temperature Sensor fault	Broken or short-circuited sensor	Check or replace the sensor
PP 2	Output water temperature Sensor fault	Broken or short-circuited sensor	Check or replace the sensor
PP 3	Fault in coil sensor 1	Broken or short-circuited sensor	Check or replace the sensor
PP 4	Fault in coil sensor 2	Broken or short-circuited sensor	Check or replace the sensor
PP 5	Fault in surrounding temperature sensor	Broken or short-circuited sensor	Check or replace the sensor
PP 6	The temperature of input and output water is too high	Insufficient water output or too small difference in water pressure	Check water output. Check that ventilation is not blocked.
PP 7	Protection against freezing for cooling	Insufficient water output	Check water output. Check that ventilation is not blocked.
EE 1	High pressure protection fault or system 1 protection fault	Defective protection of system 1	Check each place of system 1 protection, remove the defect as stated in the fault table on the system protection card
EE 2	High pressure protection fault or system 2 protection fault	Defective protection of system 2	Check each place of system 2 protection, remove the defect as stated in the fault table on the system protection card
EE 3	Fault in the water pressure sensor	Water circuit without water or with too little water	Check water output. Make sure the installation is not blocked.
Display empty	Poor-quality or missing phase (for a three-phase device)	Poor-quality or missing phase	Check power cable wiring.
EE 5*	PP6 fault occurs three times in 30 minutes	Insufficient water output or too small difference in water pressure	Check water output. Check that installation is not blocked.
EE 8	Fault in communication between the control unit and electronics	Fault in connection between the control unit connected with a cable and electronics	Check wiring.
Display empty	Defrosting underway		

** **Notes:** One minute after its activation, the water pump starts measuring the temperature of the input and output water. If the difference in temperatures is higher than 13ºC for 10 seconds, the electronics will stop the heat pump and the control unit will display fault PP6; after three minutes the heat pump will start again. If it stops three times in 30 minutes because of fault PP6, the control unit will display fault EE5. It will be possible to start the heat pump again only after disconnecting and re-connecting the power supply. When the pump is not operating or the device is in heating mode, the system does not monitor abnormal temperature differences.*

⚠ WARNING

- Before installation, check that the electricity supply complies with the technical conditions of your heat pump. The details are specified on the plaque fitted to the device or in this guide.
- Install recommended electric protective devices in accordance with local regulations.
- The heat pump has to be earthed to protect you from electric shocks due to possible short circuits.
- This guide includes a wiring diagram.
- For safety reasons, do not make any unauthorised changes to the heat pump or carry out repairs to the device without authorisation.
- Do not insert any objects into the pump when it is operating as they might touch the ventilator and damage it or cause accidents (especially in the presence of children).
- Do not use the heat pump without a grille or protective plate as this could result in accidents or abnormal operation of the device.
- If water gets into the device, immediately contact the supplier. The device may be used again only after examination by our technicians.
- Unauthorized technicians may not adjust the sensors, valves or control units of the device.

Conditions of guarantee
The conditions of guarantee are governed by your supplier's general conditions of trade and conditions of guarantee.

Safe disposal of the product after its service life
After its service life is over, have the product disposed of ecologically by a specialized company.

Warranty claims and servicing
Warranty claims are governed by applicable consumer protection legislation. In the event a fault cannot be rectified, please contact your supplier in writing.

Date.....

Supplier